Remarks and Arguments

Claim Amendments

Previously withdrawn claims 1-3 and 15-23 are hereby canceled. Claim 4 has been amended to delete recitation of nonelected subject matter. No new matter has been added as a result of the present amendments.

The present amendments to the claims are made without prejudice, solely to expedite prosecution of the present application and place it in condition for allowance. Applicant reserves the right to pursue any subject matter canceled as a result of the present amendments in future prosecution, either in this application or in one or more continuing applications.

Claim Objections

Claim 4 is objected to for recitation of nonelected subject matter. Although Applicant disagrees with the Examiner's rationale for restricting the antisense molecules recited in previously pending claim 4 for the reasons set forth in the Response to Restriction Requirement filed February 19, 2008, Applicant nevertheless hereby amends claim 4 without prejudice solely to expedite prosecution of the present application.

Rejections under 35 U.S.C. §102

Claims 4-7, 10, 11 and 14 have been rejected under 35 U.S.C. §102(a) as being anticipated by Hartness *et al.* Specifically, the Examiner asserts that Hartness *et al.* disclose an antisense nucleotide that corresponds to nucleotides 88-106 of SEQ ID NO:2, and that this antisense oligonucleotide targets TASK-3. This rejection is respectfully traversed.

Applicant respectfully submits that the antisense oligonucleotide of Hartness *et al.* does not in fact correspond to nucleotides 88-106 of SEQ ID NO:2. As can be seen on page 26501, first column of Hartness *et al.*, in the section entitled "Antisense and Missense Oligodeoxynucleotide Design and Application", the antisense nucleotide is identified as having the sequence 5' cgttctgccgcttcatcg 3'. This is the reverse complement of a region of the TASK3 nucleotide sequence spanning the start codon, specifically 5' cgatgaagcggcagaacg 3' (see Figure 2, part C on page 26501). As shown below, the reverse complement of the Hartness *et al.*'s

antisense oligonucleotide overlaps with SEQ ID NO:2 within a region defined by nucleotides 1-16, not nucleotides 88-106:

```
SEQ ID NO:2       1 ..atgaagaggcagaacg 16
Hartness et al.   1 cgatgaagcggcagaacg 18  (reverse complement)
```

In contrast, currently pending independent claim 4 recites an isolated antisense oligonucleotide that specifically hybridizes within an accessible region of TASK-3 mRNA defined by nucleotides 101 through 156 of SEQ ID NO:2, not nucleotides 1-16. Hartness *et al.* do not teach or suggest an antisense oligonucleotide that hybridizes within an accessible region defined by nucleotides 101 through 156 of SEQ ID NO:2. Moreover, currently pending independent claim 14 recites an antisense oligonucleotide that hybridizes to an accessible region of the TASK-3 mRNA in its native form. Hartness *et al.* do not teach or suggest regions of the TASK-3 mRNA that are accessible in its native form, or an antisense oligonucleotide that hybridizes to such accessible regions.

Thus, for at least these reasons, Hartness *et al.* neither teach nor suggest the isolated antisense oligonucleotides of claim 4 or claim 14. Since each of currently pending dependent claims 5-13 depends directly or indirectly from claim 4, Hartness *et al.* also fails to teach or suggest the subject matter recited in these claims.

Accordingly, Applicant respectfully requests that the rejection of claims 4-7, 10, 11 and 14 under 35 U.S.C. §102(a) be withdrawn.

Rejections under 35 U.S.C. §103

Claims 4-11 and 14 have been rejected under 35 U.S.C. §103(a) as being obvious over Hartness *et al.* in view of Bennett *et al.* The Examiner asserts that Hartness *et al.* meet all the structural requirement of the current claims except for sugar and base modifications. This rejection is respectfully traversed.

As explained above, the antisense oligonucleotide of Hartness *et al.* does not correspond to nucleotides 88-106 of SEQ ID NO:2 as recited in independent claim 4, but instead corresponds to nucleotides 1-16 of SEQ ID NO:2. Moreover, Hartness *et al.* fail to teach or

suggest an accessible region of the TASK-3 mRNA, or an antisense oligonucleotide that hybridizes within an accessible region of the TASK-3 mRNA. As such, for at least these reasons, Hartness *et al.* does not meet each of the structural requirements of currently pending claims 4-14.

Bennett *et al.* disclose antisense oligonucleotides directed against microtubule-associated protein 4. Bennett *et al.* also disclose various regions of the microtubule-associated protein 4 that can be targeted by antisense RNA, including the start codon, the termination codon, the ORF, untranslated regions, the 5' cap and introns. As an initial matter, Applicant notes that Bennett *et al.* are completely silent with respect to TASK-3, and specifically the fact that antisense oligonucleotides against TASK-3 inhibit production of TASK-3, as recited in independent claims 4 and 14. Bennett *et al.* also fail to teach or suggest an antisense oligonucleotide that hybridizes within a region defined by nucleotides 101 through 156 of SEQ ID NO:2, as recited in independent claim 4. Moreover, Bennett *et al.* completely fail to teach, suggest or even contemplate antisense oligonucleotides that specifically hybridize to accessible regions of the TASK-3 mRNA, as recited in independent claims 4 and 14. As such, for at least these reasons, Bennett *et al.* do not cure the deficiency of Hartness *et al.*

Since each of currently pending dependent claims 5-13 depends directly or indirectly from claim 4, the combination of Hartness *et al.* and Bennett *et al.* also fails to teach or suggest the subject matter recited in these claims. Accordingly, Applicant respectfully requests that the rejection of claims 4-11 and 14 under 35 U.S.C. §103(a) on the basis of Hartness *et al.* in view of Bennett *et al.* be withdrawn.

Claim 11 has been rejected under 35 U.S.C. §103(a) as being obvious over Hartness *et al.* in view of Bennett *et al.* as applied above, and further in view of Branch. This rejection is respectfully traversed.

The teachings of Hartness *et al.* and Bennett *et al.* are discussed above. Branch is cited for the disclosure of antisense "molecular triangulation" in which multiple antisense molecules are targeted against different sites of the same nucleic acid molecule. Like Hartness *et al.* and Bennett *et al.*, Branch fails to teach or suggest accessible regions of the TASK-3 mRNA or an antisense oligonucleotide that hybridizes to such accessible regions, as recited in independent

claims 4 and 14. Branch also fails to teach or suggest an antisense oligonucleotide that hybridizes within a region defined by nucleotides 101 through 156 of SEQ ID NO:2, as recited in independent claim 4. Moreover, Branch fails to teach or suggest that antisense oligonucleotides that specifically hybridize to an accessible region of the TASK-3 mRNA inhibit expression of TASK-3, as recited in independent claims 4 and 14. As such, for at least these reasons, Branch fails to cure the deficiencies of Hartness *et al.* and Bennett *et al.*

Since each of currently pending dependent claims 5-13 depends directly or indirectly from claim 4, the combination of Hartness *et al.* and Bennett *et al.* in view of Branch also fails to teach or suggest the subject matter recited in these claims. Accordingly, Applicant respectfully requests that the rejection of claim 11 under 35 U.S.C. §103(a) on the basis of Hartness *et al.* in view of Bennett *et al.*, and further in view of Branch, be withdrawn.

Claims 12 and 13 have been rejected under 35 U.S.C. §103(a) as being obvious over Hartness *et al.* in view of Noonberg *et al.* (US Patent No. 5,624,803). This rejection is respectfully traversed.

The teachings of Hartness *et al.* are discussed above. Noonberg *et al.* are cited for the disclosure of *in vivo* nucleotide generators that contain regulatory elements for efficient expression of oligonucleotides, including antisense oligonucleotides. Noonberg *et al.*, however, fail to teach or suggest accessible regions of the TASK-3 mRNA or an antisense oligonucleotide that hybridizes to such accessible regions, as recited in independent claims 4 and 14. Noonberg *et al.* also fail to teach or suggest an antisense oligonucleotide that hybridizes within a region defined by nucleotides 101 through 156 of SEQ ID NO:2, as recited in independent claim 4. Moreover, Noonberg *et al.* fail to teach or suggest that antisense oligonucleotides that specifically hybridize to an accessible region of the TASK-3 mRNA inhibit expression of TASK-3, as recited in independent claims 4 and 14. As such, for at least these reasons, Noonberg *et al.* do not cure the deficiencies of Hartness *et al.*

Since each of currently pending dependent claims 5-13 depends directly or indirectly from claim 4, the combination of Hartness *et al.* and Noonberg *et al.* also fails to teach or suggest the subject matter recited in these claims. Accordingly, Applicants respectfully request that the

rejection of claim 12 and 13 under 35 U.S.C. §103(a) on the basis of Hartness *et al.* in view of Noonberg *et al.* be withdrawn.

In light of the present amendments and arguments, Applicant submits that the present application is in condition for allowance, and respectfully requests a notice to that effect. If the Examiner feels that it would further prosecution or expedite allowance of the present case, she is invited to telephone the undersigned at 612-766-2071.

Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 14848-0004US1.

Respectfully submitted,

Date: September 23, 2008

/Cameron M. Luitjens/
Cameron M. Luitjens, Ph.D., J.D.
Reg. No. 58,674

Fish & Richardson P.C.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 766-2071
Facsimile: (612) 288-9696